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(54) **SYSTEMS AND METHODS FOR DEVICE LOCALIZATION**

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(57) **ABSTRACT**

Systems and methods for localizing portable devices are illustrated. One embodiment includes method for locating a portable device in a network that includes several reference devices. The method measures characteristics of signals transmitted via signal paths between reference devices and a portable device, normalizes the measurements to estimate characteristics of the signal paths, and estimates the likelihood that the portable device is in a particular location. Systems and methods for training prediction models include a method that includes steps for receiving context data for a portable device in a system, wherein the context data includes localization data that describes a location of the portable device, identifying a predicted stationary device based on the context data using a prediction model, identifying a target stationary device from the several stationary devices, training the prediction model based on based on the predicted stationary device and the received input.